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Weapon Injury Report

A Newsletter of the Weapon Related Injury Surveillance System 1993

Gunshot Wounds and Stabbings Reported in Four Massachusetts Cities

1992 Data for Boston, Springfield, Brockton and New Bedford Reported

Hospital emergency departments in Boston, Springfield, Brockton, and New Bedford reported treating a total of 1,860 victims of gunshot wounds and stabbings in 1992. Hospitals in these sites and selected others reported weapon injuries to the state Department of Public Health (DPH) as part of a pilot project to document the incidence of violence. Plans are now underway to expand reporting to a statewide system (see page 5).

1992 Reported Cases of Gunshot Wounds and Stabbings Treated by Hospital Emergency Departments

	Gunshot Wound	Stab Wound	TOTAL
Boston	367	783	1,150
Springfield	91	276	367
Brockton	43	148	191
New Bedford	39	113	152

Seventy-one percent of the 1,860 cases reported in the four cities were stabbings or other violence-related injuries inflicted with a sharp instrument, and 29% were gunshot wounds. In Boston, the percent of gunshot wounds (32%) was higher than in the other cities (23-26%), as shown in Table 1 (page 4). Boston hospitals reported the highest number of cases at 1,150, with Springfield reporting 367, Brockton 191, and New Bedford 152. In spite of the large number of Boston cases, when taking into account differences in population size, Boston, Springfield, and Brockton reported similar rates of gunshot and stabbing injuries. Figure 1 indicates that each city reported 15-17 victims per 10,000 population, compared to New Bedford's 12 victims per 10,000 (see also Table 2, p. 4.) Figure 1 also shows the rates per 10,000 adjusted for reporting levels of hospitals in each city. Hospitals report about 70% of their cases on average, according to record reviews conducted by staff of the Weapon-Related Injury Surveillance System at DPH.

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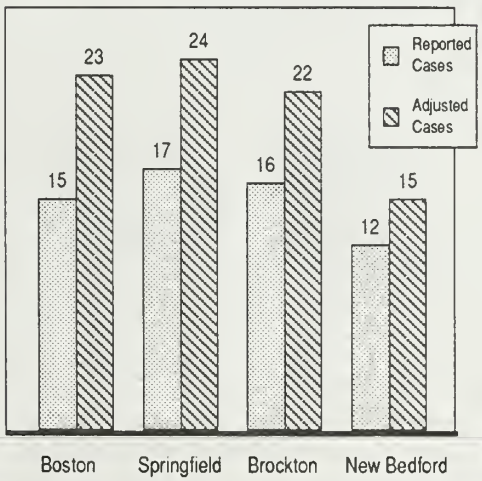
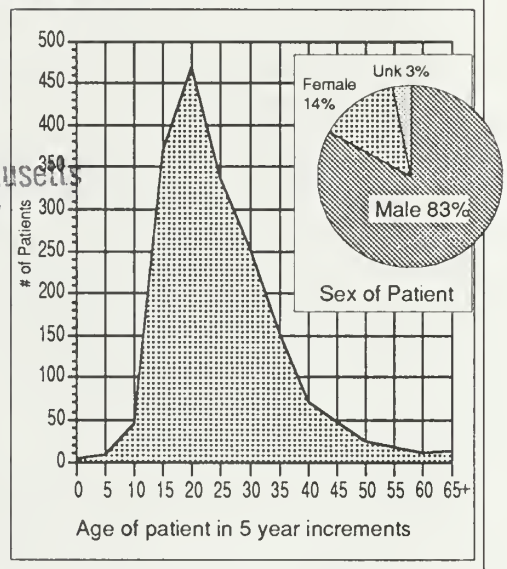
Among the stabbing and shooting victims, 83% were males, 14% were females, and 3% were missing information on sex, as indicated in Figure 2. Teens aged 15-19 made up 20% of the cases although they make up only 7% of the population in the four cities combined. Their rate of 44 victims per 10,000 teens is three times higher than the rate for the general population (15/10,000).

Fig. 1: 1992 Gunshot Wounds and Stabbings per 10,000 Population in Four Massachusetts Cities (City residents only)



Adjusted cases are inflated to account for under-reporting. See notes on Table 2, p. 4.

Fig. 2: 1992 Gunshot Wounds and Stabbings in Four Massachusetts Cities, by Age and Sex of Patient



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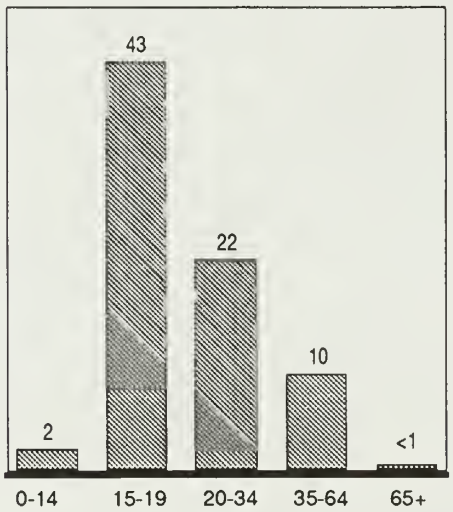
1,150 Stabbings and Shootings Reported by Boston Hospitals

1992 Data

Boston hospitals reported treating 1,150 victims of stabbings and shootings in 1992. This marks the first year that all acute care hospital emergency departments in Boston reported cases to the Department of Public Health. During that year, Boston hospitals reported 60-65% of their cases, according to record reviews by DPH staff. Therefore, 1,150 is a conservative figure and actual caseload may be higher.

Fifteen to nineteen year-old teens, particularly black male teens, was the age group at highest risk for weapon injuries with 43 victims per 10,000 teens. (See Figure 1.) Children and elders were at lowest risk with

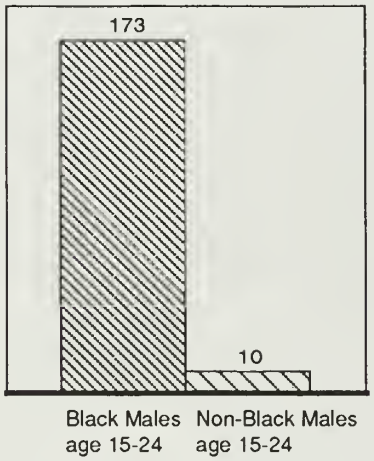
Fig. 1: 1992 Gunshot Wounds and Stabbings per 10,000 Population by Age Group of Patient (Boston residents only)



rates of 2 per 10,000 or below. Male injury rates were 6-7 times the female rates across all race groups (Fig. 4). Black males aged 15-24 made up fully one quarter of the Boston resident cases, although they make up 2% of the city's population. Young black males (15-24) had shooting and stabbing rates of 173/10,000, seventeen times greater than the rate for non-black males in the same age group (Figure 2).

Among the 1,150 injuries, 32% were from firearms and 68% were from stabbings. (Stabbings are defined as violence-related wounds

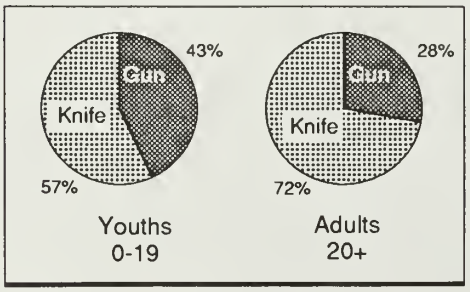
Fig 2: 1992 Gunshot Wounds and Stabbings per 10,000 Population (Boston residents only)



inflicted with a sharp or pointed instrument.) Figure 3 shows that gunshot wounds made up a significantly higher proportion of weapon injuries among youths aged 19 and under than among adults: 43% of the youths were injured by guns compared with 28% of the adults. Among males aged 15-24, 54% of the black patients were injured by guns compared to 23% of the non-black patients.

The higher rates of gun injuries to youths is an issue of grave con-

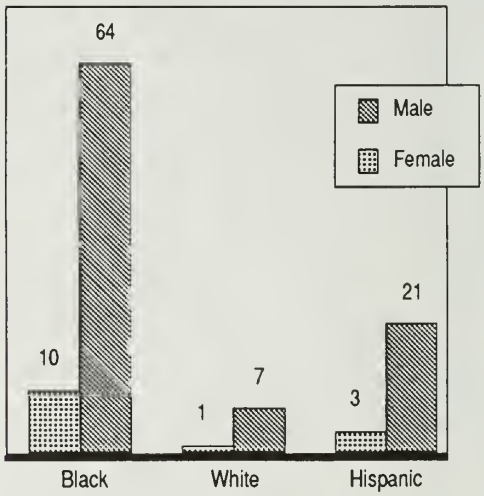
Fig 3: Age Group of Patient by Weapon



cern because guns are associated with higher death rates than knives and other weapons. For example, in 1992 Boston police reported 46 gun homicides and 14 knife homicides, while hospitals reported treating 329 non-fatal gunshot wounds and 775 non-fatal stabbings.

Among the shooting and stabbing patients treated by Boston hospitals, 20% were not Boston residents. Boston cases are mapped on the facing page according to the victim's zip code. Codman Square was the neighborhood in which the largest number of patients (145) lived. However, when taking into account differences in population size, the neighborhood with the highest rate of victims was Roxbury, with 46 cases/10,000 residents,

Fig. 4: 1992 Gunshot Wounds and Stabbings per 10,000 Population by Race/Ethnicity and Sex of Patient (Boston residents only)



followed by Grove Hall, with 38 cases/10,000 residents. In comparing neighborhood rates, it should be noted that cases are reported by emergency departments only. Neighborhood health clinics and other providers are not currently part of the reporting system.

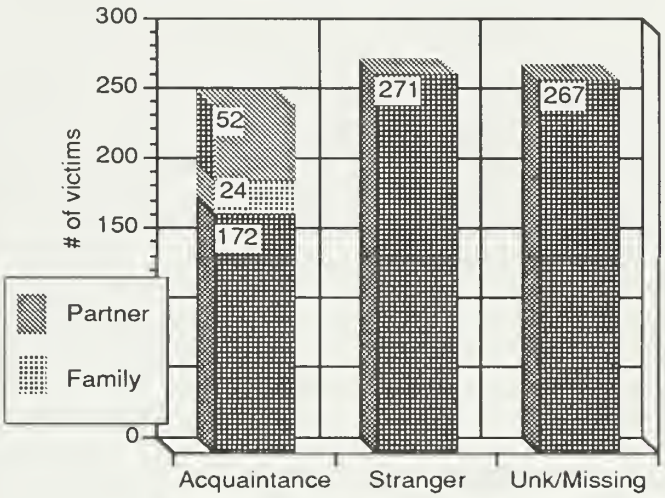
The majority of gunshot wounds were violence-related; among 367 gun incidents, 12 were self-inflicted, and 28 were accidental. (By statute, only violence-related sharp instrument wounds are reported.)

Close to half (503) of the inci-

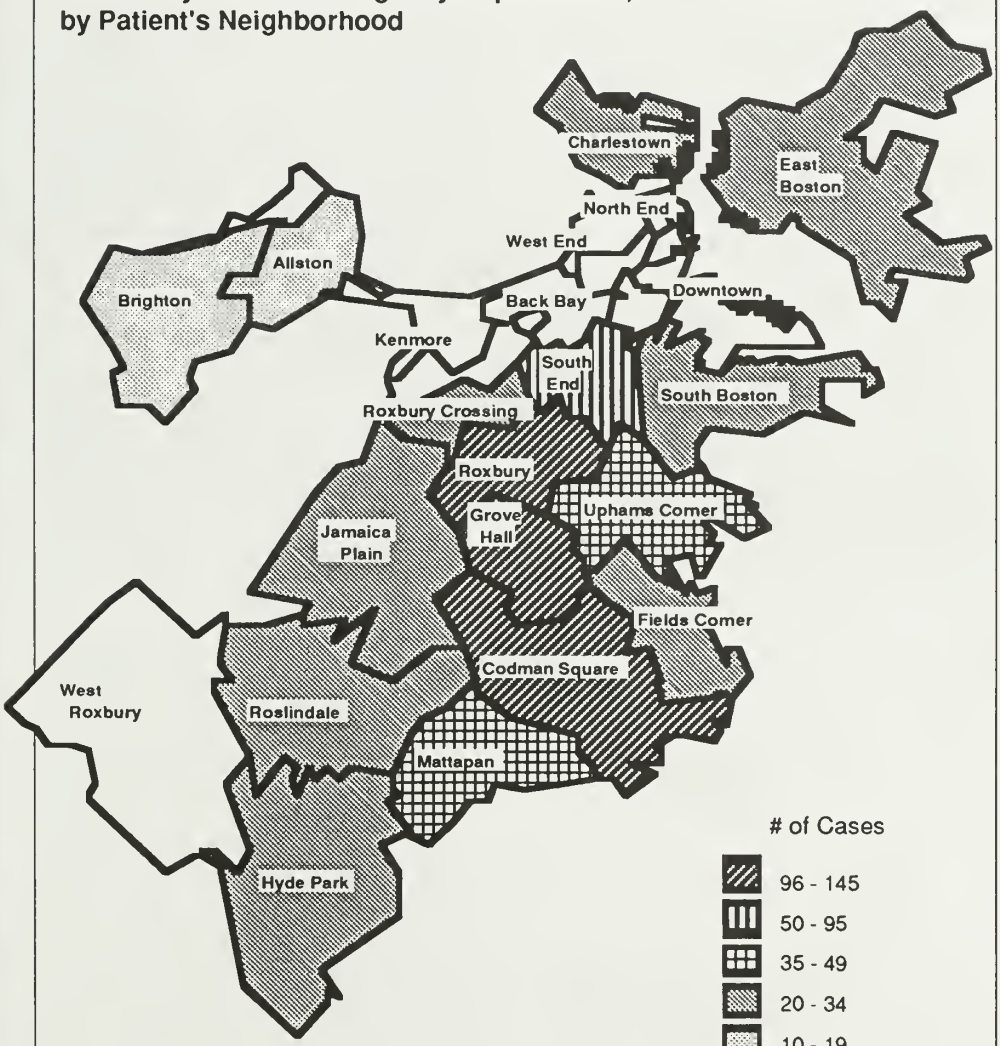
dents took place on the street, and 19% occurred in a house or apartment. About 1% (13) were reported as occurring at a school, and 2% (22) at the victim's workplace. (Location was unknown or missing in 23% of the cases.)

The circumstances which precipitated violence-related injuries were reported by hospitals, usually based on information provided by the patient. Forty percent of the incidents were reported to be precipitated by an argument or abuse. Twenty-three percent were noted as related to another crime such as robbery or drug trade. For a large portion of the cases (31%) information was unknown or missing. Data on the relationship of the victim to the offender is illustrated in Figure 5. The data was divided roughly in thirds, with one third reported as acquainted or related in some way, one third as strangers, and the remainder had no information reported.

Fig. 5: Victim/Offender Relationship



1992 Reported Cases of Gunshot Wounds and Stabbings Treated by Boston Emergency Departments, by Patient's Neighborhood



Source: MA Department of Public Health

1992 Gunshot Wounds and Stabbings Treated by Boston Emergency Departments, by Patient's Neighborhood

Neighborhood/Zip	# of cases	rate/ 10,000
Roxbury (02119)	117	46
Grove Hall (02121)	98	38
Codman Sq. (02124)	145	30
S End (02118)	61	28
Roxbury Crossing (02120)	29	20
Mattapan (02126)	46	17
Charlestown (02129)	22	15
Fields Corner 02122	29	14
Uphams Corner (02125)	41	13
Roslindale (02131)	33	10
S Boston (02127)	29	10
E Boston (02128)	31	9
Jamaica Plain (02130)	34	9
Hyde Park (02136)	22	9
W End (02114)	6	6
Allston (02134)	12	5
Boston-dwntwn (02108-11, 02210)	6	5
N End (02113)	3	4
Brighton (02135)	15	4
Back Bay (02115-6)	16	4
W Roxbury (02132)	9	3
Kenmore (02215)	2	1
Boston, no zip	30	NA
Other MA city/town	202	NA
Out of State	19	NA
Homeless	15	NA
Unknown/Missing	78	NA

Neighborhood is according to the patient's zip code. Rates/10,000 are based on the US Census estimates of the 1990 population by zip code area. Rates are not age-adjusted.

Table 1: 1992 Reported Cases of Gunshot Wounds and Stabbings Treated by Emergency Departments

	Boston		*Springfield*		*Brockton*		*New Bedford*		*Total*	
	#	*%*	*#*	*%*	*#*	*%*	*#*	*%*	*#*	*%*
Total	1150	100%	367	100%	191	100%	152	100%	1860	100%
Gunshot Wound	367	32%	91	25%	43	23%	39	26%	540	29%
Stab Wound	783	68%	276	75%	148	77%	113	74%	1320	71%
0-14 years	31	3%	19	5%	4	2%	4	3%	58	3%
15-19 years	228	20%	70	19%	37	19%	34	22%	369	20%
20-34 years	636	55%	218	59%	118	62%	87	57%	1059	57%
35-64 years	213	19%	54	15%	30	16%	25	16%	322	17%
65+ years	5	-	4	1%	1	1%	2	1%	12	1%
Unknown	37	3%	2	1%	1	1%	0	-	40	2%
Male	968	84%	295	80%	162	85%	127	84%	1552	83%
Female	143	12%	61	17%	25	13%	24	16%	253	14%
Unknown	39	3%	11	3%	4	2%	1	1%	55	3%
Violence-related	886	77%	234	64%	147	77%	125	82%	1392	75%
Suspected Violence-Related	90	8%	25	7%	22	12%	11	7%	148	8%
Self-inflicted or Accidental	40	3%	26	7%	6	3%	8	5%	80	4%
Unknown/Missing	134	12%	82	22%	16	8%	8	5%	240	13%
Hispanic	116	10%	83	23%	28	15%	30	20%	257	14%
White	229	20%	63	17%	70	37%	72	47%	434	23%
Black	609	53%	139	38%	63	33%	39	26%	850	46%
Other	24	2%	2	1%	8	4%	6	4%	40	2%
Unknown/Missing	172	15%	80	22%	22	12%	5	3%	279	15%

is the number of victims of gunshot wounds or stabbings reported by hospital emergency departments within each city. Residents and non-residents of the city are included in the total.

Table 2: 1992 Gunshot Wounds and Stabbings per 10,000 Population
Reported cases and adjusted cases (City residents only)

	Boston		*Springfield*		*Brockton*		*New Bedford*	
	#	*rate*	*#*	*rate*	*#*	*rate*	*#*	*rate*
Total Cases	836	15	269	17	151	16	123	12
Gunshot Wound	271	5	55	4	32	3	34	3
Stab Wound	565	10	214	14	119	13	89	9
1992 Ave. Reporting Rate	60-65%		70-75%		70-75%		80-85%	
Adjusted Total Cases*	1338	23	371	24	208	22	149	15
1990 Population	574,283		156,983		92,788		99,922	

is the number of city residents who were reported as victims of gunshot wounds or stabbings by hospital emergency departments within that city. Residents of other cities or towns who were treated by the hospitals are excluded from the total.

Rates are per 10,000 residents and are based on the 1990 US Census. Rates are rounded to the nearest whole number and are not age-adjusted.

* Adjusted cases are the number of gunshot and stab wound cases divided by the average reporting rate for hospitals in each city to adjust for under-reporting by hospitals.

Centers for Disease Control Select Massachusetts for Statewide Weapon Injury Reporting by Hospitals

The Massachusetts Department of Public Health (MDPH) was recently awarded a three year grant from the Centers for Disease Control to implement statewide surveillance of gunshot and stabbing injuries treated in hospital emergency departments. As awareness grows that violence is the leading cause of death for young black adults in this country, and the second leading cause for all young adults, the field of public health is beginning to apply a prevention model to violence.

The Centers for Disease Control selected MDPH as one of only two health departments in the country to serve as a national model for emergency department-level reporting on violence. The success of an earlier pilot project was a significant factor in the funding decision. Under the pilot, over 4,000 reports of gunshot wounds and stabbings were filed, with reporting compliance estimated at roughly 70%, based on record reviews at the sites. Pilot sites included all acute care hospitals in Boston, Springfield, New Bedford, Brockton, Lawrence and other sites.

Over the next two years the remaining hospitals across the state will be recruited, starting with hospitals in larger cities and cities with high homicide rates. Hospitals for decades have reported stabbings and shootings to law enforcement. The current system piggybacks on the old and collects additional information on precipitating circumstances and victim/offender relationship. Results will be shared with violence prevention programs and others to encourage use of the data at the community level. The project reports hospital-specific data back to sites and responds to special data requests from researchers at the hospitals.

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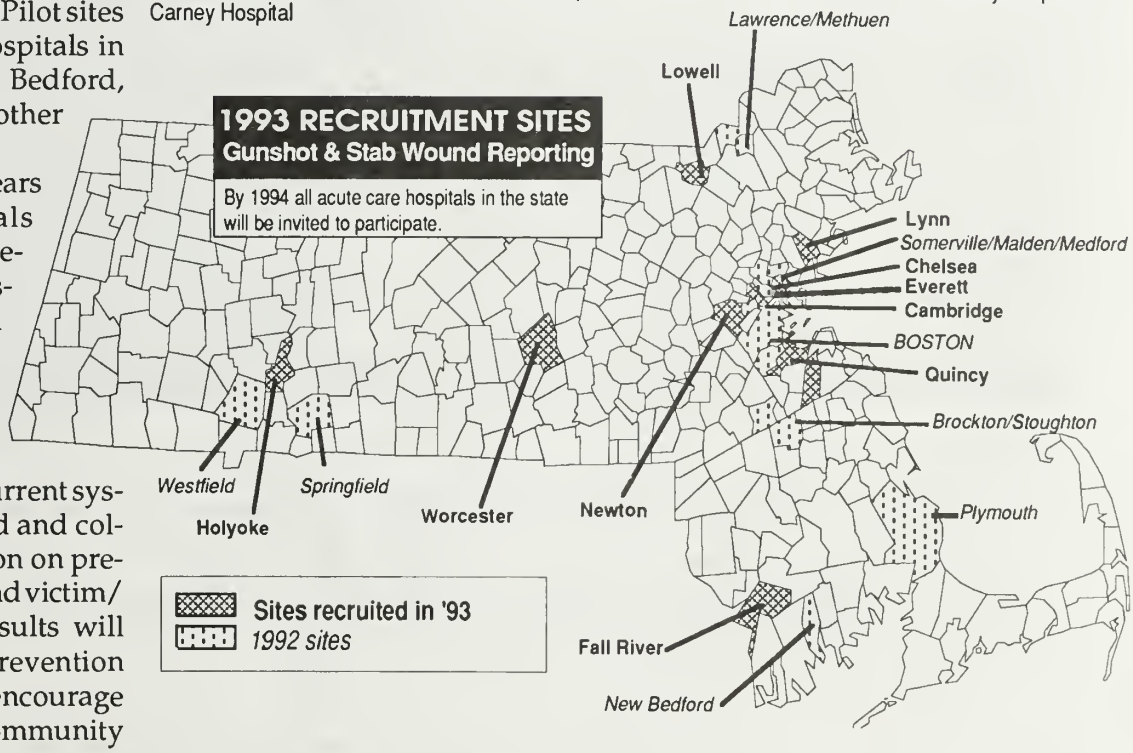
The assistance of participating hospitals is gratefully acknowledged.

News Flash!! New Sites Welcomed

Several new sites have joined the reporting system. Welcome to: UMass Medical Center, St. Vincent's, and Medical Center of Central Mass. (Worcester); Charlton Memorial and St. Anne's (Fall River); Lowell General and Saints Memorial (Lowell). Quincy Hospital (Quincy); South Shore (Weymouth); Cambridge and Mt. Auburn (Cambridge); Newton-Wellesley (Newton); Waltham-Weston (Waltham); Glover Memorial (Needham); Whidden (Everett); JB Thomas (Peabody); Winthrop (Winthrop); Salem (Salem); and Providence (Holyoke)

1992 SITES

Baystate Medical Ctr	Children's Hospital	Lawrence Mem Hospital	New England Med Ctr
Beth Israel Hospital	Faulkner Hospital	Malden Hospital	Noble Hospital
Boston City Hospital	Goddard Memorial	Mass Eye & Ear Infirmary	St. Elizabeth's Hospital
Brigham & Women	Holy Family Hospital	Mass General Hospital	St. Luke's Hospital
Brockton Hospital	Jordan Hospital	Mercy Hospital	Somerville Hospital
Cardinal Cushing Hosp	Lawrence Gen Hospital	Milton Hospital	University Hospital
Carney Hospital			



Hospitals Respond to Youth Violence

Innovative programs mark a new response by medical providers

As more youths arrive at hospitals with violent injuries, medical providers are beginning to respond with caring programs aimed at prevention. Noted below are programs which DPH staff have become acquainted with while developing the reporting system for weapon injuries. Please contact us at (617)727-9696 if you know of other hospital-based programs.

• Partners in Prevention, Faulkner Hospital, Boston:

The Faulkner Hospital sends counselors to local elementary and middle schools to teach violence prevention. Fifteen sessions are offered to fourth and fifth graders by outreach workers from the hospital's Addiction Recovery Program.

"We can see that it works," Clare Joyce, principal at the Henry Grew Elementary School in Hyde Park, explained. The curriculum helps students learn ways to resolve conflicts peacefully and teaches them to recognize the "violence escalator"– the dynamics that escalate a disagreement into a fight. "We've seen such growth in the children, from putting up their dukes at the first sign of trouble to learning how to get off the violence escalator," Joyce said. The project is funded by Boston Public Schools' Partners in Prevention program. Contact: Mary McCusker at (617) 983-7908.

• Pediatric Violence Prevention Counseling, Boston City Hospital (BCH):

The Pediatric Interpersonal Violence Trauma Team at Boston City Hospital works with patients aged 17 and under who are admitted with an assault injury. Mark Bukuras of the Boston Violence Prevention Project is a key member of the team. He visits each patient and uses a six-step intervention. "Getting the victim to talk about the incident is the first step in the healing process," Bukuras explained. He reviews patients' style of dealing with conflict and anger and discusses non-violent alternatives. He gives youths information on their risk of disability and death using local statistics (including DPH's weapon injury surveillance). Developing a plan for staying safe upon discharge is also part of the process. Bukuras is available to other Boston hospitals to present a 1-hour program on BCH's model for working with young victims of violence. Contact: Mark Bukuras at (617) 534-5894.

• Teens Against Violence, BCH:

Pediatric nurses often get to know not only the patient who is a victim of assault but the friends and siblings who wait anxiously for news and visit during the patient's recovery. Three years ago, Linda Malone, RN, was motivated by the concern that many visitors were voicing about violence in their community. She and Joanne Taupier of the Boston Violence Prevention Project started a group called Teens Against Violence. "The kids wanted to be involved in something that might change what was going on," Taupier explained. Teens are trained as violence prevention peer leaders and then go on to give workshops to other teen groups. Although the hospital-based group has stopped meeting this year, teens from the hospital who are interested now work directly with Boston Violence Prevention. Contact: Joanne Taupier at (617) 534-5894.

• Child Witness to Violence Project, BCH:

One of every ten children attending Boston City Hospital's pediatric primary care clinic has witnessed a stabbing or shooting before the age of six. Betsy McAlister Groves, director of the Child Witness to Violence Project at BCH, observed, "Parents often dismiss the seriousness of these events, assuming their child is 'too young to understand' what happened." In fact, children are often deeply effected and may exhibit symptoms associated with posttraumatic stress disorder. The Child Witness to Violence Project at BCH offers counseling and consultation services to children and their families. Eligible referrals consist of children age seven or under who have witnessed an act of severe violence or have lost a family member through violence. Contact: Betsy McAlister Groves at (617) 534-4244.

• Teen Violence Brochure, Mercy Hospital, Springfield:

When Mercy Hospital joined the reporting system for gunshot wounds and stabbings, the emergency department staff estimated they saw few cases each month. When the reports were tallied and caseload was much higher than expected, the staff felt motivated to respond. Nurse Manager Eleanor Pekora and administrator Debbie Hatzipetro suggested distributing brochures targeted to Springfield teens waiting in the emergency department's waiting room. DPH contacted a local peer leader group, Cheers for Peers, and worked with them to produce the brochure. For brochures contact Laurie Jannelli at DPH, (617) 727-8960.

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